



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/661,306	09/13/2000	Katsuaki Abe	P19976	7749

7055 7590 08/11/2004

GREENBLUM & BERNSTEIN, P.L.C.
1950 ROLAND CLARKE PLACE
RESTON, VA 20191

EXAMINER

BURD, KEVIN MICHAEL

ART UNIT	PAPER NUMBER
----------	--------------

2631

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/661,306

Applicant(s)

ABE ET AL.

Examiner

Kevin M. Burd

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2631

1. This office action, in response to the amendment filed 5/17/2004, is a non-final office action.

Response to Arguments

2. Applicant's arguments with respect to claims 20-35 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 20-27 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Evenstad (US 5,453,834).

Regarding claims 20 and 33, Evenstad discloses a reception apparatus in figure 8. This apparatus receives the V_i signal. The control 111 generates a sampling timing at a sampling rate. The sampling of the signal at A/D 101 is at a zero phase. The signal output from control 111 is delayed and the phase is shifted by 180 degrees. This phase shifted sampling timing signal is input to A/D 103 and samples the input signal. These sampled signals are output at a rate

Art Unit: 2631

that is twice the frequency of the oscillating circuits (column 10, line 59 to column 11, line 10). This is a definitive synchronization timing of the received signal. The phase is shifted for the length of the received data. Additional information is found in column 10, lines 40-58.

Regarding claim 21, Evenstad discloses a reception apparatus in figure 8. This apparatus receives the V_i signal. The control 111 generates a sampling timing at a sampling rate. The sampling of the signal at A/D 101 is at a zero phase. The signal output from control 111 is delayed and the phase is shifted by 180 degrees, thereby inverting the polarity of the timing signal. This phase shifted sampling timing signal is input to A/D 103 and samples the input signal. These sampled signals are output at a rate that is twice the frequency of the oscillating circuits (column 10, line 59 to column 11, line 10). This is a definitive synchronization timing of the received signal. The phase is shifted for the length of the received data. Additional information is found in column 10, lines 40-58.

Regarding claims 22-24, Evenstad discloses the use of the sampling timing and the phase shifted sampling timing, the sampling rate is effectively doubled (column 10, lines 59-67) and these phase shifted, lower frequencies are more robust for enhanced accuracy and reliability (column 11, lines 14-16).

Regarding claims 25 and 26, the control 111 controls the phase shift of the sampling timing as stated above.

Regarding claim 27, Evenstad discloses the use of the sampling timing and the phase shifted sampling timing, the sampling rate is effectively doubled (column 10, lines 59-67). This data will then be sent to downstream devices.

Art Unit: 2631

4. Claims 28-32, 34 and 35 are rejected under 35 U.S.C. 102(a) as being anticipated by Fujitsu (JP 11004273 A).

Regarding claims 28-32, 34 and 35, Fujitsu discloses a receiver that samples a received signal at a sampling timing as shown in figure 1. The receiver comprises a demodulator (title). The received signal is orthogonally detected. A tap coefficient table stores multiple group tap coefficients. The phase of a symbol point is received, the phase is compared to the phase of an expected symbol point and symbol correction is conducted. Zero cross point between two symbol points is estimated based on actual sample point and BTR 7 detects the amount of time gaps with the ideal sampling point. The tap coefficients are chosen and read out according to the amount of this time gap.

Conclusion

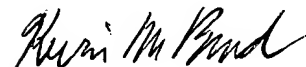
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Snyder et al (US 5,563,596) discloses a plurality of A/D converters where the first converter is controlled by a sampling timing signal and the second converter is controlled by a phase shifted sampling timing signals as stated in the abstract.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is 703-308-7034. The examiner can normally be reached on Monday - Thursday 9 am - 5 pm.

Art Unit: 2631

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 703-306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Kevin M. Burd

8/6/2004